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A LIST OF THE AMPHIBIANS AND REPTILES OF UTAH, WITH NOTES ON THE SPECIES IN THE COLLECTION OF THE ACADEMY.

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The reptiles and amphibians of Utah have been but little known. Stansbury's and Wheeler's Surveys, the report on the Death Valley Expedition, Yarrow's Catalogue, and a few notes by Cope, Dickerson, and Van Denburgh include about all that has been published on the subject. Some of the records, particularly those of Yarrow, are open to question. As in the List of Amphibians and Reptiles of Arizona, published in 1913, it has been our aim to exclude from this list all species not definitely known to live within the state. Where we have been in doubt as to the authenticity of a record the species has been omitted.

Our Utah collections are chiefly the result of the efforts of Mr. Slevin during the spring and summer of 1913, but a large number of specimens was secured for us by Chaplain Joseph Clemens, U. S. A., mainly in the vicinity of Fort Douglas. To him our thanks are due.

The following list includes 36 species. Those which the Academy has not yet secured from within the borders of Utah are indicated by a star preceding the number. Following this list are given notes on the species represented in the Academy's collections.

List of the Amphibians and Reptiles of Utah.

- 1. Ambystoma tigrinum
- *2. Hyla arenicolor
 - 3. Chorophilus nigritus triseriatus
 - 4. Bufo boreas
 - 5. Bufo lentiginosus woodhousii
- *6. Bufo punctatus
- 7. Scaphiopus hammondii
- 8. Rana pipiens
- 9. Rana pretiosa
- *10. Rana onca
- *11. Sauromalus ater
 - 12. Crotaphytus collaris baileyi
 - 13. Crotaphytus wislizenii
- *14. Callisaurus ventralis
 - 15. Uta stansburiana
 - 16. Uta ornata
 - 17. Sceloporus graciosus
 - 18. Sceloporus elongatus
- *19. Sceloporus biseriatus
- *20. Sceloporus consobrinus
- *21. Sceloporus magister
 - 22. Phrynosoma douglassii
 - 23. Phrynosoma platyrhinos
 - 24. Cnemidophorus tigris
 - 25. Eumeces skiltonianus
 - 26. Charina bottæ
- *27. Sonora semiannulata
- *28. Salvadora grahamiæ
- 29. Hypsiglena ochrorhynchus
- 30. Bascanion constrictor vetustum
- *31. Bascanion flagellum frenatum
 - 32. Bascanion tæniatum
 - 33. Pituophis catenifer deserticola
 - 34. Thannophis parietalis
 - 35. Thannophis vagrans
 - 36. Crotalus oregonus

1.—Ambystoma tigrinum (Green).

No adult salamanders were found but the collections include 32 larval or recently transformed specimens. Eighteen (Nos. 27205, and 30938 to 30954) were sent to us from Fort Douglas, Salt Lake County. The other 14 (Nos. 38664 to 38676) were collected by Mr. Slevin at Lake Solitude, Wasatch County, July 3 to 5, 1913. Lake Solitude is at an altitude of about 9000 feet and snow still lay on the ground at this date. The specimens were found under moss and leaves in the water near shore. They have no gills, but do not show any yellow markings. Smaller larvæ three or four inches long, with gills, were also found in the lake at this time. No adults or eggs were seen. In these Lake Solitude salamanders the costal folds vary in number from 12 to 15, being 12 twice, 13 eighteen times, 14 seven times, and 15 once. There is only one specimen which has not 13 grooves on at least one side of the body.

3.—Chorophilus nigritus triseriatus (Wied).

A single adult (No. 38677) was found in Provo Canyon, Wasatch Mountains, Wasatch County, May 19 to 26, 1913. It was caught in a little marshy meadow beside the Provo River.

4.—Bufo boreas Baird & Girard.

Our collections include 87 Utah specimens of this toad. Of these, 37 (Nos. 14375 to 14407, 27289, 27291, 27294 and 27296) were collected near Fort Douglas, Salt Lake County; four (Nos. 14411 to 14414) were taken at Kimballs, near Park City, Summit County; No. 38636 was found in Little Cottonwood Canyon, Wasatch Mts., Wasatch County, June 28-29, 1913; twenty-four (Nos. 38639 to 38662) were secured at an altitude of 8728 feet at the head of Big Cottonwood Canyon, Wasatch Mountains, Wasatch County, July 3-5, 1913; and twenty-one were collected in Provo Canyon, Wasatch Mts., Wasatch County, May 19 to June 20, 1913.

5.—Bufo lentiginosus woodhousii (Girard).

One hundred and seventy-seven of these toads are at hand from Utah. One hundred and forty-seven of these were col-

lected near Fort Douglas, Salt Lake County (Nos. 14221 to 14334, 14337 to 14349, 14351 to 14355, 14358 to 14361, 27287, 27288, 27290, 27292, 27293, 27295, and 27297 to 27301); twenty (Nos. 38401 to 38420) were secured at Provo, Utah County, June 20, 1913; nos. 38637 and 38638 were caught June 28-29, 1913, in Little Cottonwood Canyon, Wasatch Mountains, Wasatch County; and seven (Nos. 38395 to 38400) were obtained at Green River, Emery County, June 5-7, 1913.

7.—Scaphiopus hammondii Baird.

We have received three spade-foot toads (Nos. 14335, 14336, and 27206) from Fort Douglas, Salt Lake County, where they were collected in June and July, 1908, and on May 15, 1909.

8.—Rana pipiens Schreber.

Our Utah collections include 104 frogs of this species. Five specimens (Nos. 38389 to 38393) are from Green River, Emery County, June 5 and 6, 1913; forty-five (Nos. 38526 to 38570) were collected in Provo Canyon, Wasatch Mountains, Wasatch County, May 19 to June 13, 1913; fifty-three (Nos. 14115, 14416 to 14462, and 30933 to 30937) were secured near Fort Douglas, Salt Lake County; and No. 14463 was taken at Kimberly, Piute County. These frogs seem not to differ from those in our series from Arizona.

9.—Rana pretiosa Baird & Girard.

We have 45 of these frogs from Utah. One (No. 14492) was secured near Fort Douglas, Salt Lake County, and the others (Nos. 38571 to 38614) were collected in Provo Canyon, Wasatch Mountains, Wasatch County, May 19 to June 13, 1913. We are unable to distinguish these frogs from others collected at Klamath Falls, Oregon, and Mt. Rainier, Washington. There appears to be no constant difference in coloration or in plantar or palmar tubercles.

12.—Crotaphytus collaris baileyi (Stejneger).

We have 16 of these lizards from Utah. Nine (Nos. 38208 to 38216) are from Thompson, Grand County, May 30 to

June 4, 1913; and seven (Nos. 38032 to 38038) were secured at Newhouse, Beaver County, May 15, 1913. Those from Thompson are much greener than the Newhouse specimens. The central head scales are in two series in all these Utah specimens.

The femoral pores in these specimens vary from 15 to 20; being 15 three times, 16 four times, 17 seven times, 18 eight times, 19 six times, and 20 four times.

13.—Crotaphytus wislizenii Baird & Girard.

Twenty-two were secured in Utah. Of these, 18 (Nos. 38217 to 38234) were shot near Thompson, Grand County, May 30 to June 4, 1913; two (Nos. 38343 to 38344) at Elgin, in the same county, June 5 to 7, 1913; one (No. 38376) at Green River, Emery County, June 6, 1913; and one (No. 38031) near Newhouse, Beaver County, May 15, 1913.

Femoral pores in these specimens vary from 17 to 24; being 17 twice, 19 three times, 20 seven times, 21 fourteen times, 22 eight times, 23 nine times, and 24 once.

15.—Uta stansburiana Baird & Girard.

Fifty specimens from Utah are at hand, as follows: Twentynine (Nos. 38047 to 38075) from Newhouse, Beaver County, May 15, 1913; three (Nos. 38386 to 38388) from Green River, Emery County, June 5-7, 1913; two (Nos. 38345, 38346) from Elgin, Grand County, June 5, 1913; and 16 Nos. 38326 to 38341) from Thompson, Grand County, May 30 to June 4, 1913.

The femoral pores in 15 specimens from Emery and Grand counties vary from 13 to 16; being 13 twice, 14 ten times, 15 fourteen times, and 16 four times. In 24 lizards from Newhouse the pores vary from 12 to 16; being 12 once, 13 nine times, 14 twenty times, 15 fifteen times, and 16 three times.

16.—Uta ornata Baird & Girard.

This lizard was found at Thompson, Grand County, where 22 specimens (Nos. 38304 to 38325) were collected May 30 to June 4, 1913. Utah specimens seem not to differ from those taken in Arizona. Femoral pores in 17 specimens vary from 12 to 16; being 12 five times, 13 fifteen times, 14 eleven times, 15 twice, and 16 once.

17.—Sceloporus graciosus Baird & Girard.

We have 94 specimens from Utah. There are four (Nos. 38300 to 38303) from Thompson, Grand County, May 30 to June 4, 1913; 29 (Nos. 38497 to 38525) from the Wasatch Mountains, Wasatch County, May 19 to June 20, 1913; 44 (Nos. 14159 to 14162, 27159 to 27195, and 30927 to 30929) from Fort Douglas, near Salt Lake City, Salt Lake County; eight (Nos. 38085 to 38092) from Beaver, Beaver County, May 13, 1913; and nine (Nos. 38076 to 38084) from Milford, Beaver County, May 16, 1913.

Femoral pores in 90 specimens vary from 9 to 16; being 9 once, 11 twelve times, 12 fifty-three times, 13 sixty-nine times, 14 twenty-five times, 15 seventeen times, and 16 three times.

18.—Sceloporus elongatus Stejneger.

We refer to this species 65 specimens (Nos. 38235 to 38299) collected at Thompson, Grand County, May 30 to June 4, 1913. Femoral pores in 64 of these vary from 16 to 22; being 16 eight times, 17 eighteen times, 18 thirty-four times, 19 thirty times, 20 twenty-four times, 21 ten times, and 22 four times. The dorsal scales in a row from the interparietal plate to a line joining the backs of the thighs in 45 of these lizards vary from 44 to 50; being 44 four times, 45 five times, 46 nine times, 47 ten times, 48 eight times, 49 once, and 50 eight times.

Dr. Stejneger, at our request, has very kindly compared three of these specimens with the original specimens of *S. clongatus*, and writes that he finds them identical. It is interesting to find in Utah this species which has been known only from the original Arizonan specimens. This species differs from *S. biseriatus* in general coloration, in having two blue spots on the throat (as in *S. occidentalis* and *S. consobrinus*) and in its smaller dorsal scales. We are not certain that Utah records of *S. consobrinus* may not be based, at least in part, on this species, although the coloration is quite different. *S. smaragdinus* was originally described from specimens from Utah and Nevada, but its 14 femoral pores, 41 scales from head to base of tail, and entire middle portion of throat blackish blue, indicate that it was based upon specimens of *S. biseriatus*.

22.—Phrynosoma douglassii (Bell).

The collection includes 18 of these horned toads. One (No. 38342) was caught near Thompson, Grand County, May 30 to June 4, 1913; sixteen (Nos. 14153 to 14158, 14493 to 14494, 27156 to 27158, and 30930 to 30932, 38763, 38764) were collected in the vicinity of Fort Douglas, Salt Lake County; and one (No. 38093) was taken near Beaver, Beaver County, May 13, 1913.

Femoral pores in 16 specimens vary from 13 to 17; being 13 four times, 14 eight times, 15 twelve times, 16 six times, 17 twice. This form differs from *Phrynosoma hernandesi* principally in its shorter cephalic horns and larger scales on the belly.

23.—Phrynosoma platyrhinos Girard.

We have only one specimen (No. 38039) caught at Newhouse, Beaver County, May 15, 1913. Its femoral pores are 9-9.

24.—Cnemidophorus tigris Baird & Girard.

One hundred and twenty-seven Utah specimens are in our collections. One hundred and eight (Nos. 38099 to 38207) were shot at Thompson, Grand County, May 30 to June 4, 1913; nine (Nos. 38377 to 38385) were collected at Green River, Emery County, June 5, 6, 1913; three (Nos. 14163, 14496, 14497) were secured near Fort Douglas, Salt Lake County; and seven (Nos. 38040 to 38046) were taken at Newhouse, Beaver County, May 15, 1913.

The femoral pores in 124 of these specimens vary from 17 to 23; being 17 three times, 18 seventeen times, 19 forty-five times, 20 fifty-seven times, 21 sixty-one times, 22 fifty times, and 23 fifteen times. The average number of pores on the 248 thighs is 20.47, as against 20.64 on 160 thighs of specimens from Yuma, Arizona.

25.—Eumeces skiltonianus (Baird & Girard).

Four skinks of this species (Nos. 38094 to 38097) were caught under stones in the oak belt of the foothills near Mt. Baldy, Beaver County, May 13, 1913. They seem to be typical in coloration and scale characters. The scales around the mid-

dle of the body are 26, 24, 26, 24, and in a row from the back of the head to a line joining the backs of the thighs one counts 56, 56, 57, 57 scales.

We believe this skink has not before been recorded east of California. Yarrow mentions *Eumeces obsoletus* as having been taken in Utah, but his records are open to question until confirmed.

26.—Charina bottæ (Blainville).

We have seven of these boas from Utah. No. 38421 was found in Little Cottonwood Canyon, Wasatch Mts., Wasatch County, June 28, 1913; four (Nos. 38422 to 38425) were secured in Provo Canyon, in the Wasatch Mountains, May 19 to June 20, 1913. The other two (Nos. 27197 and 38762) were collected near Fort Douglas, Salt Lake County. This species seems not to have been taken previously east of Nevada. Variation in scale-counts is shown in the following table:

No.	Sex	Scale rows	Gastro- steges	Uro- steges	Supra- labials	Infra- labials	Loreals
27197 38421 38422 38423 38424 38425 38762	\$000 000 00 \$0	41 41 41 41 41 41	208 205 207 206 204 210 202	39 33 33 35 34 35	10—10 10—10 10—10 9—9 9—10 9—9 9—9	13—11 10—10 10—10 11—11 11—11 11—11	1—1 1—1 1—1 1—1 1—1 1—1

29.—Hypsiglena ochrorhynchus Cope.

We have two snakes of this kind (Nos. 30925 and 30926) collected near Fort Douglas, Salt Lake County, in 1910.

No. 30925, a female, has 21 scale-rows, gastrosteges 182, urosteges 49, anal divided, supralabials 8–8, infralabials 10–10, preoculars 1–1, postoculars 2–2, temporals 1+2–1+2, loreal 1–1, posterior genials shorter.

No. 30926, a male, has 21 scale-rows, gastrosteges 177, urosteges 50, anal divided, supralabials 7–7, infralabials 9–9, preoculars 1–1, postoculars 2–2, temporals 1+1–1+2, loreal 1–1, posterior genials shorter.

We do not know of any previous record of this snake for Utah.

30.—Bascanion constrictor vetustum (Baird & Girard).

This snake evidently is common in Utah. We have secured 30 specimens. Thirteen of these (Nos. 38426 to 38438) are from Provo Canyon, Wasatch Mountains, Wasatch County, May 19, to June 20, 1913. The other 17 are from Fort Douglas, Salt Lake County. Variation in scale characters is shown in the following table:

No.	Sex	Scale	Gastro- steges	Uro- steges	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreals	Temporals
38426 38427 38428 38430 38431 38432 38433 38433 38433 38434 41465 14165 14167 14171 14172 14173 14174 14175 14176 14177 27200 27201 27202 27202 27204 38760	\(\frac{1}{2} \rightarrow \rightarrow \frac{1}{2} \frac{1}{2} \rightarrow \frac{1}{2} \frac{1}{2} \rightarrow \frac{1}{2} \frac{1}{2} \rightarrow \fr	17 17 17 17 17 17 17 17 17 17 17 17 17 1	171 164 170 176 164 167 172 168 170 165 172 171 164 172 173 170 169 170 173 176 179 170 170 173 176 177 179 179 170 179 170 171 172 173 174 175 176 177 177 178 179 179 179 179 179 179 179 179 179 179	90 83 82 85 94 90 97 86 86 89 82 88 102 95 98 88 87 95 98 88 87 95 88	7—7 7—8 8—8 7—8 8—8 7—7 7—7 8—8 7—7 7—8 7—8	8—8 8—8 9—8 8—7 9—8 8—8 8—8 8—8 8—7 8—8 8—8 8—8 9—X 8—8 8—8 8—8 8—8 9—9	2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2	2—2 2—2 2—2 2—2 2—2 2—2 2—2 2—2		2+2-2+2 2+2-2+2

32.—Bascanion tæniatum (Hallowell).

Four specimens from Fort Douglas, Salt Lake County, have the following scale counts:

No.	Sex	Scale rows	Gastro- steges	Uro- steges	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreals	Temporals
14167 30923 30924 38761	50000	15 15 15 15	202 202 204 209	140 131 127	8—8 8—8 8—8 8—8	X—X X—9 8—7 9—9	2—2 2—2 2—2 2—2 2—2	2—2 2—2 2—2 2—2 2—2	1—1 1—1 1—1 1—1	2+2-2+2 2+2-2+2 2+2-2+2 2+2-2+2

33.—Pituophis catenifer deserticola Stejneger.

Twenty-eight of these snakes are at hand. No. 38755 was secured in Provo Canyon, Wasatch Mountains, Wasatch

County, June 26, 1913. The others are all from Fort Douglas, Salt Lake County. The following table gives the variation in scale characters:

14193 31 238 66 8—8 11—11 1—1 2—2 1—1 4+5—4+4 14194 7 29 239 59											
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34.—Thamnophis parietalis (Say).

The only specimen of this snake in our collections from Utah is a female, No. 14169, secured near Fort Douglas, Salt Lake County, in June or July, 1908. Its scales are in 19 rows, gastrosteges 166, urosteges 75, supralabials 7–7, infralabials 10–10, preoculars 1–1, postoculars 3–3, loreal 1–1, temporals 2+3–1+2, posterior genials longer.

35.—Thamnophis vagrans (Baird & Girard).

This snake evidently is much more abundant in Utah than *Thannophis parietalis*. We have 60 specimens. Nos. 14166, 38758 and 38759 were caught near Fort Douglas, Salt Lake County. All the others were collected in Provo Canyon, Wasatch Mountains, Wasatch County, May 19 to June 20, 1913. All show the typical coloration. Variation in scale characters is given in the following table:

No.	Sex	Scale rows	Gastro- steges	Uro- steges	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreals	Temporals
14166 38758 38758 38749 38441 38442 38443 384445 38446 38446 38453 38455 38456 38456 38456 38466 38467 38468 38467 38488 38477 38478 38477 38478 38488	\$50050450455550504504040404040555505555	21 21 21 21 21 21 21 21 21 21 21 21 21 2	170 164 168 170 162 173 160 163 174 169 161 162 163 171 166 163 171 166 168 177 173 171 169 160 163 173 171 169 160 163 173 171 169 160 163 173 171 173 177 178 178 179 166 179 179 170 174 173 177 178 179 179 179 179 179 179 179 179 179 179	75 81 78 83 73 75 93 87 87 87 87 87 88 86 77 77 88 88 86 88 77 77 88 88 89 87 77 78 88 88 88 88 88 88 88 88 88 88	X—8 8—8 8—8 8—8 8—8 8—8 8—8 8—8 8—8 8—8	X-10 10-10	I - I 2 - 2 1 - I 1 1 - I 1 1 1 1 1 1 1 1 1	3—3 4—3 3—3 4—3 3—3 4—4 4—4 4—4 4—4 3—3 3—4 3—3 3—3		1+2+3-1+2+3 1+3+3-1+2+3 1+3+3-1+2+3 1+3+3-1+2+3 1+3+3-1+2+3 1+3+3-1+2+3

36.—Crotalus oregonus Holbrook.

Our collections include seven rattlesnakes from Utah. Six of these are typical *C. oregonus* in color and scale characters. The seventh (No. 38098) seems to agree with the others in squamation, but is creamy white in color without any darker markings. This last specimen was caught out on the sandy

desert south of Thompson, Grand County, May 30 to June 4, 1913. No. 38439 was secured in Provo Canyon, in the Wasatch Mountains, Wasatch County, May 19-26, 1913. The other five were collected near Fort Douglas, Salt Lake County.

No.	Sex	Scale	Gastro- steges	Uro- steges	Supra- labials	Infra- labials	Pre- oculars	Post- oculars	Loreals
14208 14209 27196 30921 30922 38098 38439	ত্রত্রত কর্ত্রত	25 27 25 25 25 25 25 25	178 180 171 179 179 178 175	24 20 24 22 18	16—X 14—14 15—16 15—15 15—17 15—16 16—15	16—X 15—X 15—16 15—15 17—17 15—16 16—14	2—X X—2 2—2 2—2 2—2 2—2 2—2 2—2	3—3 3—3 3—3 3—3 3—3 3—3	1—X 1—1 1—1 1—1